Title: Fashion Sense and Dollar Wise

#### **Link to Outcomes:**

• **Number** Students will work to develop an understanding of the relationship between fractions, decimals, and percents, as well as application of

ratios and proportions.

• **Statistics** Students will organize data and use the Consumer Price Index (CPI)

to examine inflationary trends.

• **Problem Solving** Students will solve real-world consumer problems.

• **Reasoning** Students will demonstrate their ability to reason logically and build

evidence to support a decision. They will utilize gathered

advertisements to determine the best buy for their desired look.

• Cooperation Students will work together to collect and organize data, as well as

determine their final outcome and best buy choice.

• Communications Students will read, discuss, and compare advertisements to

determine the best buys.

• **Technology** Students will use calculators to perform conversions involving

fractions, percents, and decimals.

• Connections Students will use Economics and Home Economics skills as they

choose their outfits while considering lowest costs. This unit will also serve as an introduction to consumer projections regarding

inflation.

#### **Brief Overview:**

Students will collect clothing advertisements from newspapers and magazines. Cooperatively the students will discuss the various ways used to express savings or sales. Discussion and example will assist students in understanding the conversion relationship between fractions, percents and decimals. Using various examples, students will work with advertisements to choose their favorite outfit while considering lowest costs. Ultimately, students will find the best look and the best price. Furthermore, students will hypothesize what effect inflation has had and will have on these prices. Then, using the CPI, students will test their hypothesis.

#### **Grade/Level:**

Grades 6-8

#### **Duration/Length:**

At least 3 to 5 class periods should be allocated for this lesson. Consideration should be given to the students' ability level and background.

#### Prerequisite Knowledge:

Students would have working knowledge of the following skills:

- Data collection
- Organizing data
- Fractional operations
- Decimal place value
- Decimal operations
- Percent concepts
- Basic ratio concepts

#### **Objectives:**

- Collect and organize data
- Discuss percent findings from newspapers and magazines
- Convert decimals, fractions and percents
- Determine the relationship between decimals, fractions and percents
- Determine the best buy and support your choice
- Create a visual representation of the findings
- Use the Consumer Price Index (CPI) to examine inflationary trends

#### Materials/Resources/Printed Materials:

- Calculators
- Student worksheets
- Magazine and newspaper advertisements showing examples of savings fractions, percents, buy one get one free, etc.

#### **Development/Procedures:**

• Have students collect newspaper and magazine advertisements one week prior to the start of the lesson.

#### **Day 1:**

- Survey students' concept of percent and percent/decimal/fraction relationships using Student Worksheet 1. Then discuss findings.
- Present the process of converting decimals to fractions to percents and vice versa. Evaluate students' comprehension of concepts using Worksheet 2.

#### **Day 2:**

- Present prepared sales advertisements showing percent and fraction examples.
- Have students work cooperatively to determine the final cost of sale items. Students will fill in their calculations on Worksheet 3 Part A. (The use of a state Sales Tax Chart may be helpful.)
- Have students perform the calculations on Worksheet 3 Part B to determine which sale items would be their own best choice and explain their selection.

#### **Day 3:**

- Review and discuss Worksheet 3 Part B.
- Have each cooperative group create and present an advertisement collage of their outfits.

#### **Day 4:**

- Begin by asking students how much they think the same outfit would have cost their parents in 1970.
- Explain that the Consumer Price Index (CPI) measures the average change in prices over a given period of time. The CPI in this unit will be based on prices of clothing bought for daily living.
- Demonstrate how to calculate what the price of an item would have been in 1970 using ratio and proportion (see Worksheet 4).
- Have each student predict what a \$15 item in 1980 cost in 1993. Calculate and discuss. Have students complete Worksheet 4.

#### **Evaluation:**

The teacher observes the students as they work cooperatively to calculate their cost and conversions. Furthermore, the teacher will examine Worksheets 2, 3 and 4 to check for understanding of conversion concepts. The students will present their collage to the class and explain how they determined the best buy.

#### Extension/Follow Up:

Students will create a commercial for the "line of clothing" (group collage) that their group has created. Students must write a script for a 1-2 minute commercial (either live, audio, or video) and perform it.

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1. Which of the	following are tru	ie?	
percent is	a grade on a test	:	
percent ca	an show a part of	a whole	
percent is	based on number	ers from 0-100 (or more)	
percents of	can show sales o	r discounts	
percents a	are another way	of showing fractions	
percents a	are another way	of showing decimals	
2. What is the sy	ymbol for percer	nt?	
3. List two place	es where we see	percents in everyday life	».
4. Which do you	u think would be	the best buy?	
A \$24.00	shirt on sale at S	Store A for 1/3 off	
The same free speci		tore B for \$30.00, but th	ey are having a buy one get one
The same	shirt on sale at S	tore C for \$20.00, but th	ey are having a 10% off sale
5. Numerically 1	represent the por	tion of the following veg	etables that are green:
celery sweet potatoes	carrots onions	radishes peas	string beans spinach
Give your answe	er using:		
fractions			
decimals			
percents			

### Part A- Fill in the blanks:

Percent	Fraction	Decimal
45%		
	1/2	
		0.35
120%		
	3/4	
		0.28
80%		
	2/5	
		0.375

## Part B

1. Whice	ch is the best buy?			
a	\$15.00 CD on sale at \$	Store A for 1/3 off		
	e same CD on sale at S ee special	Store B for \$30.00, but the	ney are having a buy one get	t one
th	e same CD on sale at S	Store C for \$25.00, but the	hey are having a 45% off sal	le
2. What	percent of these numb	ers are divisible by 5?		
65	32	120	345	
900	18	240	35	
15	100	81	60	

**Part A** Calculate final cost of sale items and record in worksheet below.

Article of Clothing	Ad #1	Sales Tax	Final Cost	Ad #2	Sales Tax	Final Cost

### Part B

For each final clothing choice, compute the amount of savings. Convert from fractions to decimals to percents or vice versa depending on ad used.

					С	onversio	าร
Item	Original Cost	Sale	Discount	Final Cost	Percent	Decimal	Fraction

Economists use the Consumer Price Index (CPI) to measure the change in prices over time. For example, a loaf of bread that cost \$ 0.33 in 1970 would cost \$1.12 in 1993. This change in price is primarily due to inflation. (Remember, these are estimates only.)

You can determine costs as related to the CPI using ratio and proportion.

Suppose you know that a certain bicycle cost \$115.00 in 1992 and would like to determine what its cost would likely have been in 1975:

$$\frac{\text{cost of a bicycle in 1992}}{\text{CPI 1992}} = \frac{\text{cost of a bicycle in 1975}}{\text{CPI 1975}} = \frac{\$115.00}{129.4} = \frac{x}{76.7}$$

$$\frac{129.4x = \$115.00 \times 76.7}{129.4x = 8820.5} \times \$68.16$$

Use the chart provided to answer the questions below:

### **Consumer Price Index for Apparel Commodities**

Source: Bureau of Labor Statistics, U.S. Dept. of Labor

Year	CPI
1970	63.3
1975	76.7
1980	92.9
1985	104
1990	122
1991	126.4
1992	129.4
1993	131

1. If a shirt cost \$15.00 in 1975, what did it cost in 1992?	2. In 1993 a pair of sneakers cost \$55.00, what did they approximately cost in 1990?
3. If your mother's bell bottom jeans cost \$23.00 in 1970, what did they cost in 1993?	4. A baseball cap cost \$2.50 in 1980. What did it cost in 1985?

Challenge: In question #4 what was the percent of increase in the price?